Trend Study 11A-3-00

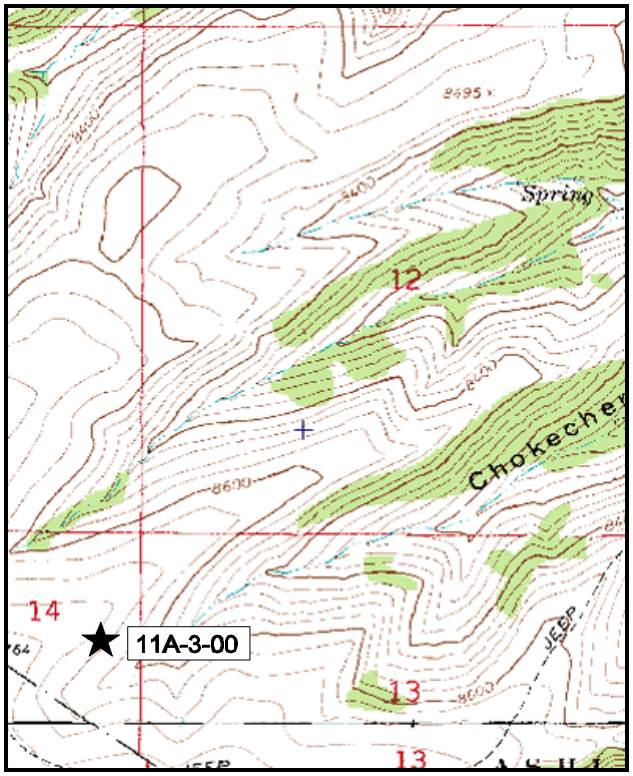
Study site name: Chokecherry Canyon . Range type: Sagebrush- Grass Burn .

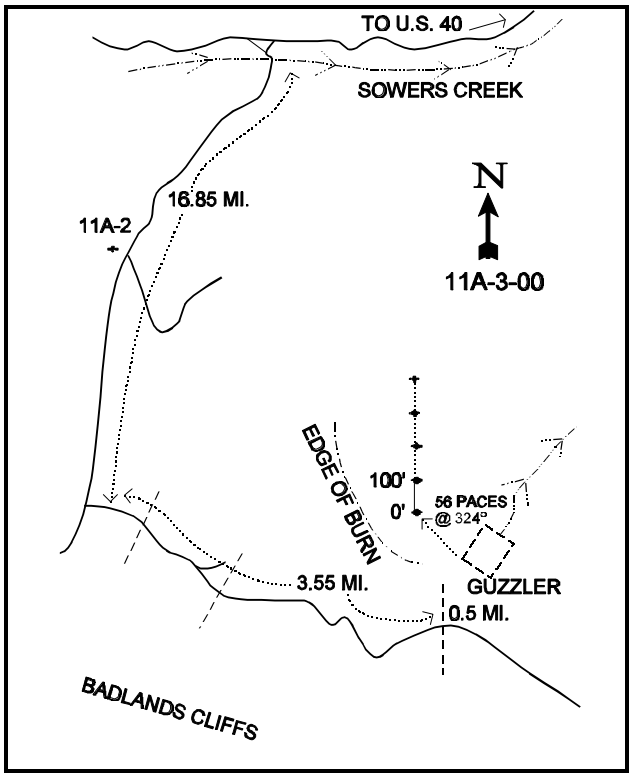
Compass bearing: frequency baseline 348°M .

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (6 & 95ft), line 2 (25ft), line 3 (46ft), line 4 (62ft).

LOCATION DESCRIPTION

From the junction of Highway U.S. 40 and the Sowers Canyon Road (near Bridgeland), proceed south on the Sowers Canyon Road for 8.5 miles to the Nutters Ridge road. Turn left and drive south 16.85 miles up Nutters Ridge to a "T" intersection above the Badland Cliffs. Turn left and go 3.55 miles along the edge to a fence. Continue 0.5 miles and stop. Walk north over the ridge to a large, fenced guzzler. From the southwest fence corner, the 0-foot baseline stake is located 56 paces away at a bearing of 324°. The baseline is marked by green steel fenceposts, 12-18 inches in height.





Map Name: Anthro Mountain

Diagrammatic Sketch

Township 7S , Range 5W , Section 14

UTM 4414055.516 N, 550639.866 E

DISCUSSION

Trend Study No. 11A-3 (15-3)

The Chokecherry Canyon trend study is located at the head of Chokecherry and Alkali Canyons and samples a prescribed burn treatment on a sagebrush/grass type. The burn was completed in 1977 and consumed approximately 500 acres. The burn was not seeded, however native species have readily recolonized the burned area. Elevation at the study site is 8,600 feet. A wildlife guzzler is located adjacent to the site. The aspect is to the north with a gentle 10% slope. The area where the site lies is grazed on a 3-unit deferred rotation system with 200 head of cattle grazed from December 1 to March 23. Wildlife use on the site is light by deer and moderately high for elk with an estimated 4 deer days use/acre (10 ddu/ha) and 84 elk days use/acre (207 edu/ha) in 2000. Cattle use was light this past year with only 1 cow day use/acre (2 cdu/ha) being estimated. Animal use is estimated from a pellet group transect read along the sampling baseline of the study site.

Soils are a moderately shallow clay loam with neutral reactivity (pH of 6.9). The stoniness index shows rock to be fairly uniformly distributed throughout the profile. Soil depth increases further down slope in the drainage bottom. Total vegetative cover is moderately high at 45% and 50% in 1995 and 2000 respectively, with at least half of this total coming from perennial grasses in both years. High grass cover, coupled with abundant litter cover at nearly 50%, results in minimal erosion. Rock and pavement cover combined are estimated at 10%. Percent bare ground was low in 1995 at 13%, but increased in 2000 due to a large decrease in the forb component due to drought.

The two principle browse species are mountain big sagebrush and mountain low rabbitbrush. In 2000, the mountain low rabbitbrush population is estimated at 5,800 plants/acre with a mostly mature age structure (80%). Mature plants show light use and average height is 8 inches with an average crown diameter of 11 inches. Leader growth on rabbitbrush averaged between 3-4 inches in 2000. The mountain big sagebrush population is productive and vigorous and is the key browse at this site. Mountain big sagebrush density was estimated at 1,500 plants/acre in 1995, increasing to an estimated 6,000 plants/acre in 2000. Hedging is light to moderate with mostly good vigor throughout the population. Stature of sagebrush on this site is relatively small with an average height of 14 inches and crown of 25 inches in 2000. Age class distribution indicates a rapidly expanding population with nearly half of the population being young plants. Percent decadency remains low at 3% in 2000. Average leader growth on sagebrush was estimated at about 3 inches. Other browse include: snowberry, gray horsebrush and dwarf rabbitbrush. In 2000, gray horsebrush showed the most use of any browse species on the site with 88% of the plants sampled displaying moderate to heavy use. Average leader growth was less than one inch in 2000. Density for this species is currently estimated at 500 plants/acre.

Perennial grasses are the dominant vegetative component on the site. They provided 22% and 26% average cover in 1995 and 2000 respectively. Eleven species have been sampled during the past 3 sampling years, with bluebunch wheatgrass currently being the most abundant. Other abundant species include: Letterman needlegrass, needle-and-thread, slender wheatgrass and thickspike wheatgrass. Sum of nested frequency for perennial grass species has slightly decreased with each reading since 1988. In 2000, nested frequency of thickspike wheatgrass, needle-and-thread and Prairie junegrass significantly decreased, while that of bluebunch wheatgrass significantly increased. All other species remained at stable frequencies in 2000. Identification of grasses was difficult in 2000 due to the lack of heads and common physical characteristics between the species. Minimal use was noted on grasses in 2000.

Forbs are diverse and have been moderately abundant at this site. In 1995, twenty-nine species of forbs were encountered, with an increase in sum of nested frequency from the 1988 level. However, due to drought in 2000, forbs were far less abundant in number, cover and sum of nested frequency. Bastard toadflax provides the greatest amount of forb cover, followed by silvery lupine, sulfur eriogonum and Watson penstemon.

1982 APPARENT TREND ASSESSMENT

Soil trend appears stable but could decline if grazing intensity were to increase. Vegetative condition is good considering the perceived management objectives of forb enhancement.

1988 TREND ASSESSMENT

Trend for soil is stable with adequate cover from litter and herbaceous vegetation to limit erosion. Browse species are increasing in abundance following the prescribed burn. Trend for browse is slightly up with the increase in shrub densities. Trend for the herbaceous understory is up with abundant herbaceous vegetation. Basal vegetative cover nearly doubled in 1988.

TREND ASSESSMENT
soil - stable (3)
browse - slightly up (4)
herbaceous understory - up (5)

1995 TREND ASSESSMENT

Soil trend is stable with little bare ground and excellent vegetative and litter cover. The mountain big sagebrush density appears to be expanding in size and exhibits moderate hedging. Mountain low rabbitbrush is the dominate browse species (50% of browse cover) with light to moderate hedging and a stable population. Snowberry is heavily utilized with an apparent stable population and heavy hedging. These factors lead to a slightly upward browse trend. The herbaceous understory sum of nested frequency is increasing although there is a slight decrease in the grass sum of nested frequency. Diversity of forbs has increased along with the sum of nested frequency for perennial forbs. There are very few annual species. This would indicate a stable herbaceous understory trend.

TREND ASSESSMENT
soil - stable (3)
browse - slightly upward (4)
herbaceous understory - stable, slightly down for grasses and slightly up for forbs (3)

2000 TREND ASSESSMENT

Trend for soil is stable. Vegetation and litter cover remain high and erosion is minimal. Trend for browse is slightly up. Mountain big sagebrush has high recruitment from young plants and continues to increase in density. However, this increase in density is not at the expense of the herbaceous understory as cover from sagebrush is currently only 7%. Trend for the herbaceous understory is slightly down. Sum of nested frequency for perennial grasses slightly decreased, while that of perennial forbs decreased by more than half in 2000. This drastic decrease is due to the drought experienced in 2000. This trend should improve with normal precipitation patterns.

TREND ASSESSMENT
soil - stable (3)
browse - slightly up (4)
herbaceous understory - slightly down (2)

HERBACEOUS TRENDS --
Herd unit 11A, Study no: 3

Type	Species	Nested Frequency			Quadrat Frequency				Average Cover %	
		'88	'95	'00	'82	'88	'95	'00	'95	'00
G	Agropyron dasystachyum	c307	b211	a89	46	96	67	36	4.99	.77
G	Agropyron spicatum	a-	b32	c209	-	-	11	66	.87	12.41
G	Agropyron trachycaulum	a16	b85	b56	28	5	30	25	2.70	1.16
G	Bromus anomalus	b25	a-	a3	-	9	-	1	-	.03
G	Carex spp.	b49	a5	a9	-	22	2	5	.03	.27
G	Festuca ovina	a-	b11	b10	-	-	4	6	.04	.27
G	Koeleria cristata	a7	b49	a12	1	5	16	4	2.57	.21
G	Poa fendleriana	b83	a18	a42	-	32	10	16	.25	.69
G	Stipa columbiana	-	4	-	9	-	1	-	.15	-
G	Stipa comata	a17	c122	b62	16	7	45	25	3.59	1.60
G	Stipa lettermani	b252	a154	a160	42	84	48	52	6.78	9.46
Total for Annual Grasses		0	0	0	0	0	0	0	0	0
Total for Perennial Grasses		756	691	652	96	260	234	236	22.01	26.90
Total for Grasses		756	691	652	96	260	234	236	22.01	26.90
F	Antennaria rosea	b6	a-	ab4	-	3	-	2	-	.30
F	Androsace septentrionalis (a)	-	b31	a-	-	-	14	-	.27	-
F	Arabis drummondi	a1	b16	a-	-	1	7	-	.06	-
F	Astragalus convallarius	1	4	-	9	1	1	-	.00	-
F	Astragalus spp.	4	-	-	-	2	-	-	-	-
F	Castilleja flava	a-	b10	a-	-	-	5	-	.33	-
F	Calochortus nuttallii	-	3	-	-	-	1	-	.00	-
F	Chenopodium album (a)	-	b42	a-	-	-	16	-	.15	-
F	Chaenactis douglasii	b34	b20	a6	-	15	12	2	.13	.03
F	Comandra pallida	a186	b250	a186	31	70	86	65	3.52	3.40
F	Collinsia parviflora (a)	-	a-	b40	-	-	-	17	-	.77
F	Crepis acuminata	a3	b76	a4	-	1	35	2	.37	.06
F	Cymopterus longipes	-	-	3	-	-	-	1	-	.00
F	Delphinium nuttallianum	-	1	-	-	-	1	-	.00	-
F	Eriogonum alatum	a-	a2	b14	-	-	1	8	.00	.21
F	Erigeron eatonii	b19	b8	a-	-	8	4	-	.07	-
F	Eriogonum umbellatum	a35	b70	a34	2	15	33	18	1.72	.45
F	Geranium spp.	3	-	3	-	1	-	-	-	-
F	Hedysarum boreale	-	1	-	-	-	1	-	.00	-

Type	Species	Nested Frequency			Quadrat Frequency				Average Cover %	
		'88	'95	'00	'82	'88	'95	'00	'95	'00
F	Heterotheca villosa	-	-	3	-	-	-	1	-	.03
F	Hymenoxys acaulis	$_{a}$-	$_{b}$19	$_{b}$12	-	-	10	6	.32	.15
F	Ipomopsis aggregata	$_{b}$8	$_{ab}$3	$_{a}$-	-	3	2	-	.03	-
F	Linum lewisii	$_{a}$-	$_{b}$21	$_{b}$10	-	-	10	5	.27	.10
F	Lithospermum ruderale	$_{a}$-	$_{b}$8	$_{ab}$5	-	-	5	2	.19	.06
F	Lupinus argenteus	$_{b}$67	$_{a}$25	$_{a}$8	30	33	12	6	.65	.55
F	Lychnis spp.	2	-	-	-	1	-	-	-	-
F	Machaeranthera canescens	$_{c}$31	$_{b}$4	$_{a}$-	-	15	4	-	.07	-
F	Oenothera lavandulaefolia	$_{a}$-	$_{b}$22	$_{b}$9	-	-	9	5	.98	.05
F	Penstemon caespitosus	$_{a}$-	$_{b}$21	$_{a}$3	-	-	9	2	.58	.01
F	Penstemon comarrhenus	$_{b}$50	$_{a}$27	$_{a}$18	-	30	14	9	.36	.31
F	Penstemon watsonii	$_{b}$73	$_{b}$84	$_{a}$13	-	30	35	6	1.38	.27
F	Physaria acutifolia	$_{a}$-	$_{b}$9	$_{ab}$4	-	-	5	2	.08	.03
F	Phlox longifolia	$_{b}$86	$_{a}$20	$_{a}$4	-	45	10	2	.10	.06
F	Polygonum douglasii (a)	-	$_{b}$51	$_{a}$-	-	-	19	-	.22	-
F	Potentilla gracilis	$_{a}$-	$_{b}$8	$_{b}$9	-	-	4	4	.07	.02
F	Schoencrambe linifolia	-	-	1	-	-	-	1	-	.00
F	Tragopogon dubius	-	3	-	-	-	1	-	.03	-
F	Unknown forb-perennial	$_{b}$20	$_{a}$-	$_{a}$-	-	10	-	-	-	-
Total for Annual Forbs		0	124	40	0	0	49	17	0.64	0.76
Total for Perennial Forbs		629	735	350	75	284	317	149	11.41	6.15
Total for Forbs		629	859	390	75	284	366	166	12.06	6.92

Values with different subscript letters are significantly different at % = 0.10

BROWSE TRENDS --
Herd unit 11A, Study no: 3

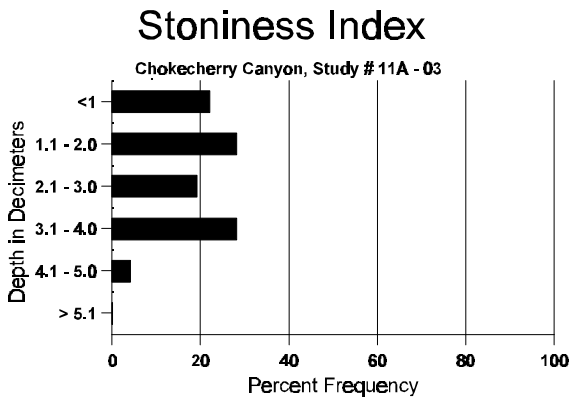
Type	Species	Strip Frequency '95	Strip Frequency '00	Average Cover % '95	Average Cover % '00
B	Artemisia nova	2	0	-	-
B	Artemisia tridentata vaseyana	40	69	1.45	7.04
B	Chrysothamnus depressus	7	15	.16	.39
B	Chrysothamnus viscidiflorus lanceolatus	83	82	4.86	4.06
B	Gutierrezia sarothrae	2	1	.01	.00
B	Opuntia spp.	4	2	.03	-
B	Symphoricarpos oreophilus	24	9	2.28	.21
B	Tetradymia canescens	12	17	.83	.39
Total for Browse		174	195	9.63	12.10

BASIC COVER --
Herd unit 11A, Study no: 3

Cover Type	Nested Frequency '95	Nested Frequency '00	Average Cover % '82	Average Cover % '88	Average Cover % '95	Average Cover % '00
Vegetation	379	368	12.50	23.00	45.31	50.65
Rock	252	143	2.00	5.50	8.19	5.89
Pavement	136	271	4.75	2.50	1.29	10.82
Litter	396	379	55.75	53.75	47.58	49.29
Cryptogams	2	-	0	0	.63	0
Bare Ground	308	281	25.00	15.25	12.67	26.07

SOIL ANALYSIS DATA --
Herd Unit 11A, Study # 3, Study Name: Chokecherry Canyon

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
13.54	56.2 (14.65)	6.9	32.9	33.8	33.2	4.3	11.8	217.6	0.9



PELLET GROUP FREQUENCY --
Herd unit 11A, Study no: 3

Type	Quadrat Frequency		Pellet Transect	
	'95	'00	Pellet Groups per Acre '00	Days Use per Acre (ha) '00
Rabbit	4	3	157	N/A
Elk	27	46	1096	84 (208)
Deer	3	9	148	11 (28)
Cattle	-	1	9	1 (2)

BROWSE CHARACTERISTICS --
Herd unit 11A, Study no: 3

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia nova																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	2	-	1	-	-	-	-	-	-	3	-	-	-	60	5	7	3
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'82	00%	00%	00%
'88	00%	00%	00%
'95	00%	17%	00%
'00	00%	00%	00%

Total Plants/Acre (excluding Dead & Seedlings)			%Change	
	'82	0	Dec:	0%
	'88	0		0%
	'95	120		33%
	'00	0		0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia tridentata vaseyana																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	2	-	-	-	-	-	-	-	-	2	-	-	-	133			2
	95	48	-	-	-	-	-	-	-	-	48	-	-	-	960			48
	00	8	-	-	-	-	-	-	-	-	8	-	-	-	160			8
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	9	-	-	-	-	-	-	-	-	9	-	-	-	600			9
	95	33	8	-	-	-	-	-	-	-	41	-	-	-	820			41
	00	144	-	-	1	-	-	-	-	-	145	-	-	-	2900			145
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	88	1	2	-	-	-	-	-	-	-	3	-	-	-	200	11	16	3
	95	19	12	-	-	-	-	1	-	-	30	2	-	-	640	16	23	32
	00	114	33	-	-	-	-	-	-	-	139	-	5	3	2940	14	25	147
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	1	-	-	-	1	-	-	-	1	-	1	-	40			2
	00	6	2	-	-	-	-	-	-	-	7	-	-	1	160			8
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	240			12
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	460			23

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	
'88	17%	00%	00%	+47%
'95	28%	01%	01%	+75%
'00	12%	00%	03%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	0	Dec:	0%
	'88	800		0%
	'95	1500		3%
	'00	6000		3%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Chrysothamnus depressus																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	13	4	-	-	-	-	-	-	17	-	-	-	340	3	9	17
	00	27	20	-	-	-	-	-	-	-	47	-	-	-	940	2	5	47
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	1	-	-	-	-	-	-	-	-	-	-	-	1	20			1
	00	-	1	-	-	-	-	-	-	-	1	-	-	-	20			1
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	140			7

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	
'88	00%	00%	00%	
'95	72%	22%	06%	+63%
'00	44%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	0	Dec:	0%
	'88	0		0%
	'95	360		6%
	'00	960		2%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Chrysothamnus viscidiflorus lanceolatus																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	4	-	-	-	-	-	-	-	-	3	-	1	-	266			4
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	82	8	-	-	-	-	-	-	-	-	8	-	-	-	533			8
	88	75	3	-	-	-	-	-	-	-	63	-	15	-	5200			78
	95	83	-	-	-	-	-	-	-	-	83	-	-	-	1660			83
	00	32	-	-	-	-	-	-	-	-	32	-	-	-	640			32
M	82	48	-	-	-	-	-	-	-	-	48	-	-	-	3200	12	18	48
	88	41	2	-	-	-	-	-	-	-	41	-	2	-	2866	13	14	43
	95	296	104	-	-	-	-	-	-	-	400	-	-	-	8000	9	13	400
	00	215	11	7	-	-	-	-	-	-	233	-	-	-	4660	8	11	233
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	12	5	-	-	-	-	-	-	-	16	-	1	-	1133			17
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	15	4	6	-	-	-	-	-	-	20	-	1	4	500			25
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	+59%
'88	07%	00%	13%	+ 5%
'95	22%	00%	00%	-40%
'00	05%	04%	02%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	3733	Dec:	0%
	'88	9199		12%
	'95	9660		0%
	'00	5800		9%

Gutierrezia sarothrae																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20	3	5	1
	00	4	-	-	-	-	-	-	-	-	4	-	-	-	80	4	4	4

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	
'88	00%	00%	00%	
'95	00%	00%	00%	+50%
'00	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	0	Dec:	-
	'88	0		-
	'95	40		-
	'00	80		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Opuntia spp.																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	4	-	-	-	-	-	-	-	-	4	-	-	-	80	4	15	4
	00	1	-	-	1	-	-	-	-	-	2	-	-	-	40	3	10	2

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	
'88	00%	00%	00%	
'95	00%	00%	00%	-50%
'00	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	0	Dec:	-
	'88	0		-
	'95	80		-
	'00	40		-

Symphoricarpos oreophilus																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	5	5	2	-	-	-	-	-	-	12	-	-	-	800			12
	95	6	-	-	1	-	-	-	-	-	7	-	-	-	140			7
	00	5	-	-	-	-	-	-	-	-	5	-	-	-	100			5
M	82	4	-	-	-	-	-	-	-	-	4	-	-	-	266	12	21	4
	88	-	5	-	-	-	-	-	-	-	5	-	-	-	333	15	26	5
	95	10	1	15	3	-	19	-	-	-	40	8	-	-	960	13	28	48
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20	11	20	1
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	1	-	-	-	-	-	-	-	1	-	-	-	66			1
	95	-	2	-	-	-	-	2	-	-	4	-	-	-	80			4
	00	3	-	-	-	-	-	1	-	-	4	-	-	-	80			4

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	+78%
'88	61%	11%	00%	- 2%
'95	05%	58%	00%	-83%
'00	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	266	Dec:	0%
	'88	1199		6%
	'95	1180		7%
	'00	200		40%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Tetradymia canescens																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	00	1	2	-	-	-	-	-	-	-	3	-	-	-	60			3
M	82	2	-	-	-	-	-	-	-	-	2	-	-	-	133	7	11	2
	88	1	1	-	-	-	-	-	-	-	2	-	-	-	133	11	12	2
	95	2	17	-	-	-	-	-	-	-	19	-	-	-	380	9	13	19
	00	1	8	4	-	2	4	-	-	-	19	-	-	-	380	7	12	19
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	1	-	-	-	1	-	-	-	20			1
	00	1	1	1	-	-	-	-	-	-	3	-	-	-	60			3

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'82	00%	00%	00%	+33%
'88	33%	00%	00%	+55%
'95	77%	05%	00%	+12%
'00	52%	36%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'82	133	Dec:	0%
	'88	199		0%
	'95	440		5%
	'00	500		12%